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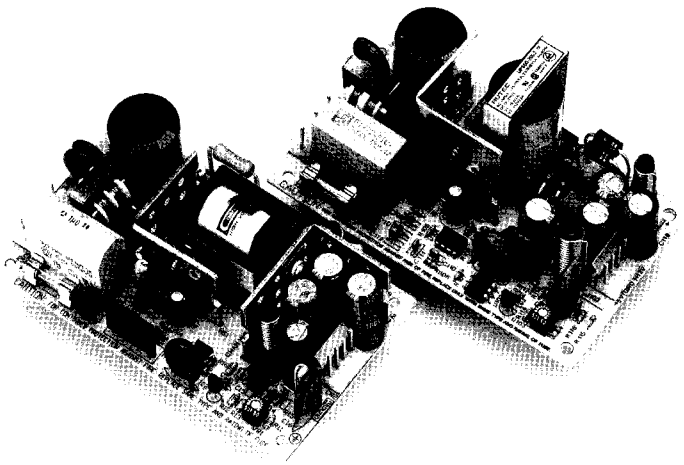
UPS Series — 12W - 110W Open Frame Universal Input Models



The UPS series power supplies provide reliable DC power for your system at a very low cost. They are offered in a P.C. Board only configuration, with on-board heatsinks for free air cooling. Universal input and international safety agency approvals ensure global acceptance. Many models are particularly well-suited for disk-drive & other computer / peripheral related applications.

FEATURES

- VDE or FCC CLASS 'B' EMI COMPLIANCE
- LOW COST FLYBACK TOPOLOGY
- 90-264 VAC UNIVERSAL INPUT
- HIGH-RELIABILITY MOS-FET DESIGN
- UL RECOGNIZED TO UL 1950
- TUV APPROVAL TO IEC950/EN60950
- CSA 234 or 1402c LEVEL 3 APPROVAL
- CURRENT MODE CONTROL

GENERAL SPECIFICATIONS

INPUT VOLTAGE:	90-264 VAC, 47-440 Hz. Consult Factory for 400 Hz. operation.
INRUSH CURRENT:	20A @ 115 VAC, 40A @ 230 VAC (thermistor limited).
INPUT FUSING:	See mechanical drawing.
HOLD-UP TIME:	20 mS, min., from nominal line and full load.
DC OUTPUT:	See selection chart.
SWITCHING FREQUENCY:	40 kHz nominal.
EFFICIENCY:	70% typical.
CONDUCTED EMI:	VDE and/or FCC Class 'B' (see charts).
TEMPERATURE COEFFICIENT:	0.02% / degree C (after 30 min. warmup).
OVERLOAD PROTECTION:	Power limiting - within 150% of total power.
HI-POT ISOLATION:	3750 VAC input to output for 1 minute (DC equiv.).
RIPPLE & NOISE:	1% p-p of output voltage, measured through a 12" twisted pair across a 47uf capacitor.
OVERVOLTAGE PROTECTION:	+5V output exceeding 115% - 135% causes crowbar, automatic recovery.
OPERATING TEMPERATURE:	0° to 50° C at rated continuous load, derating linearly to 50% of rated load at 70° C.
STORAGE TEMP.:	-55° C to 85° C.
HUMIDITY:	5% to 95% R.H. (N.C.).
ALTITUDE:	10,000 ft., 40,000 ft. non-operating.
SAFETY:	UL / CSA / TUV approved. (UPS65-1xxx: VDE approved).

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Single Output - Model Selection Chart

OUTLINE: ..... 1.57" x 4.72" x 1.14" / 40.0 x 120.0 x 29.0 mm
MOUNTING: ..... 1.26" x 4.41" / 32.0 x 112.0 mm

See page 13 for complete mechanical & connection data.
(Also has small + 12 V output for fan power)

PWR / PK (1)	MODEL	VOLTAGE	MIN. A (2)	FULL (3)	PEAK (4)	W/AIR (5)	REG. (6)	EMI (7)
12W / 17W	UPS12-1002	5.0V	0.0A	2.0A	3.0A	N/A	±3%	FCC B
12W / 15W	UPS12-1241	24.0V	0.1A	0.5A	0.625A	N/A	±2%	FCC B

OUTLINE: ..... 3.0" x 5.0" x 1.1" / 76.2 x 127.0 x 28 mm
MOUNTING: ..... 2.55" x 4.55" / 64.8 x 115.6 mm

See page 15 for complete mechanical & connection data.

PWR / PK (1)	MODEL	VOLTAGE	MIN. A (2)	FULL (3)	PEAK (4)	W/AIR (5)	REG. (6)	EMI (7)
40W / 60W	UPS40-2051	5.0V	0.2A	8.00A	12.0A	N/A	±2%	VDE B
40W / 60W	UPS40-2091	9.0V	0.2A	4.50A	6.6A	N/A	±2%	VDE B
40W / 60W	UPS40-2121	12.0V	0.2A	3.50A	5.25A	N/A	±2%	VDE B
40W / 60W	UPS40-2151	15.0V	0.2A	2.70A	3.95A	N/A	±2%	VDE B
40W / 60W	UPS40-2241	24.0V	0.2A	1.70A	2.5A	N/A	±2%	VDE B

See page 4 for additional 65W single output models (3" x 5").

OUTLINE: ..... 3.5" x 6.0" x 1.46" / 89 x 152.4 x 37.1 mm
MOUNTING: ..... 3.15" x 4.8" / 80 x 122 mm

See page 17 for complete mechanical & connection data.

PWR / PK (1)	MODEL	VOLTAGE	MIN. A (2)	FULL (3)	PEAK (4)	W/AIR (5)	REG. (6)	EMI (7)
65W / 85W	UPS65-1051	5.0V	0.2A	13.0A	17.0A	N/A	±2%	VDE B
65W / 85W	UPS65-1121	12.0V	0.2A	5.5A	7.0A	N/A	±2%	VDE B
65W / 85W	UPS65-1151	15.0V	0.2A	4.5A	5.6A	N/A	±2%	VDE B
65W / 85W	UPS65-1241	24.0V	0.2A	2.75A	3.5A	N/A	±2%	VDE B

OUTLINE: ..... 4.27" x 7.0" x 1.88" / 108.5 x 178 x 47.7 mm
MOUNTING: ..... 3.75" x 6.5" / 95.25 x 165.1 mm

See page 17 for complete mechanical & connection data.

PWR / PK (1)	MODEL	VOLTAGE	MIN. A (2)	FULL (3)	PEAK (4)	W/AIR (5)	REG. (6)	EMI (7)
85W / 110W	UPS110-1051	5.0V	0.2A	16.70A	21.5A	21.5A	±2%	VDE B
85W / 110W	UPS110-1121	12.0V	0.2A	7.00A	9.1A	9.1A	±2%	VDE B
85W / 110W	UPS110-1151	15.0V	0.2A	5.60A	7.3A	7.3A	±2%	VDE B
85W / 110W	UPS110-1241	24.0V	0.2A	3.50A	4.5A	4.5A	±2%	VDE B

NOTES:

1. Total peak power must not exceed the value indicated, with each output not exceeding its peak current rating. The supply may be capable of providing more than the specified continuous and/or peak ratings. Consult a factory Sales Engineer for application assistance.
2. Minimum load specified assures output voltage stability for all specified line voltage conditions. Full compliance to total regulation specifications may require additional loading (not to exceed 25% of rated output current for each output). Operation at no load will not damage the power supply.
3. Each output can provide its full rated output current, provided the total wattage does not exceed nominal (continuous) rating.
4. Peak power is available for 30 seconds max., with a 10% duty cycle.
5. For 110 watt continuous operation, the UPS110 series requires forced air (fan) cooling. The recommended minimum airflow is 150 LFM flowing longitudinally across the power supply. This can typically be achieved with a 20 CFM fan, at 1 atmosphere, directing air at the power supply from a distance of about 12 inches or less. Effectiveness of cooling can be verified by observing that no heatsink temperature exceeds 100°C when the power supply is operated at (W/AIR rating in amperes), with ambient air temperature of 50°C or less.
6. Total regulation includes the combined effects of:
   a) initial set point of main output (and/or any other adjustable output) of ±1% max.
   b) line regulation for any input voltage change between 90 & 264 VAC.
   c) load regulation for a MIN. - 100% of rated continuous load change.
   d) cross regulation for a MIN. - 100% of rated continuous load change on any other output(s) and assumes that the total continuous power rating of the supply is not exceeded. [See Note 2]. Performance during peak loading conditions is not included in the figure.
7. Units which meet VDE level B also comply with FCC level B.

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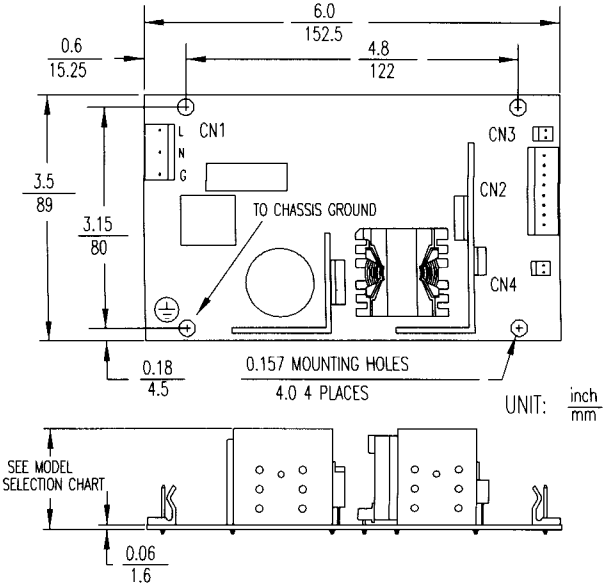
Mechanical Drawings



CN1	Molex: 09-65-2058 (or equiv.) Mate: Molex 09-50-1051 (or equiv.)			
PIN				
1	2	3	4	5
GND	N/C	NEUT	N/C	LINE

CN2	Molex: 09-65-2088 [09-65-2068 for UPS65-1002-M & UPS85-1002]- (or equiv.) Mate: Molex 09-50-1081 [09-50-1061 for UPS65-1002-M & UPS85-1002]- (or equiv.)						
MODEL	PIN						
	1	2	3	4	5	6	7	8
UPS65-1004, -1004-X	+5V		D.C. RETURN		V2		V3	V4
UPS65-1002, 1002-M, UPS85-1002	+5V		D.C. RETURN		+12V		N/C	N/C
SINGLE OUTPUT MODELS (-1xx1)	Vout				D.C. RETURN			

CN3, CN4: Connections for FAN, LED, REMOTE SENSE AND/OR REMOTE PROGRAMMING available (depending upon model). Consult factory for AN-65-01 application note.

For All Connectors: PIN 1 defined as far right pin when facing open side of connector, (opposite side from locking ramp).

FUSING: 2A/250V Slow Blow - (Provided on supply).

UPS65-1002-M & UPS85-1002 have 6 pin [CN2] output connector.